

Table S14: List of organisms grouped after several factors

Factor^a	Organisms^b	Extreme organisms^c
Phylogeny^d		
Actinobacteridae	2*	0
Alphaproteobacteria	5*	0
Bacilli	6*	3 (alkalo, pyschrotol, thermo)*
Betaproteobacteria	3*	1 (pyschrotol)*
Chroococcales	3*	1 (thermo)*
Clostridia	2*	1 (thermo)*
Deinococci	3*	3 (radio res)*
Deltaproteobacteria	4*	1 (psychro)*
Gammaproteobacteria	5*	4 (pyschro,halo, pyschrotol,psychro)*
Halobacteria	2*	2 (halo)*
Methanococci	1	0
Methanomicrobia	2*	1 (psychrotol)*
Thermococci	1	1 (hyperthermo)
Thermoprotei	1	1 (hyperthermo)
Total	40 (37*)	19 (17*)
pH (mean)^e		
6.4	1	0 (meso)
6.6	1	1 (halo)
6.8	4*	1 (psychrotol)*
6.9	2*	1(psychrotol)*
7.1	2*	1 (radi)*
7.2	4*	3 (radi, pyschro, thermo)*
7.3	3*	1 (radi)*
7.4	2*	1 (halo)*
7.5	4*	3 (radi, pyschro, thermo)*
7.6	1	1 (pyschro)

7.8	1	0
8	2	1 thermo)*
9.5	1	1 (alkalo)
Total	28 (21*)	15 (12*)
Temperature^e		
8	1	1 (pyschro)
10	1	1 (pyschro)
20-30	1	0
23.4	1	0
25	3	2 (psychro, pyschroto)*
25-30	1	0
25-35	3	0*
25-40	2	0*
30	3	1(halo)*
30-37	2	1(radi)*
30-40	1	1(pyschroto)
35	1	0
40	2	1(radi)
40-50	1	1(halo)
42	1	1(halo)
45	1	1(thermo)
55	2	2(thermo)*
80-102	1	1(hyperthermo)
Total	28 (17*)	14 (6*)
Oxygen requeriment^e		
Aerobe	10*	7(hyperthermo,radi,halo, pyschrotol)*
Anaerobe	8*	4 (thermo,psychro,psychrotol, halo)*
Facultative	17	6(alkalo,psychroto,psychro, thermo)*
Obligate aerobic	1	0
Obligate anaerobe	3*	1 (hyperthermo)*
Total	39 (38*)	18 (18*)
Phenotipe^e		
Alkalophile	1	1 (alkalo)

Antimicrobial activities	1	0
Chemoorganotroph	1	1 (psychrotol)
Fast growing	1	0
Heterotroph	2*	0
Heterotroph, Chemolithoautotroph	1	1 (hyperthermo)
Nitrogen cycle	1	0
Non-Pathogen	5*	2 (psychrotol,thermo)*
Non-Pathogen, Biofilm	1	1(halo)
Proteolytic	1	1(halo)
Pathogen	1	0
Radiation resistant	3*	1 (radi)*
Sulfur cycle	1	1(psychro)
Total	20 (10*)	9 (3*)
Cell shape^e		
Coccus-shaped	9*	6 (radi,pyschrotol, hyperthermo, thermo)*
Filament-shaped	1	0
Pleomorphic-shaped	1	1(halo)
Rod-shaped	23*	11(alkalo,pyschrotol, pyschro,thermo,halo)*
Sphere-shaped	3*	1 (hyperthermo)*
Spiral-shaped	1	0
Total	38 (35*)	19 (18*)
Energy source^e		
Chemolithoautotroph	1	0
Chemolithotroph	2*	0
Chemoorganotroph	8*	5(thermos, radi,halo)*

Heterotroph	2*	2 (psychro,halo)*
Lithotroph	2*	1 (pyschrotol)*
Lithotroph, Chemolithoautotroph	1	0
Photolithotroph, Photoautotroph	1	0
Photosynthetic	1	0
Photosynthetic, Photoautotrop	3*	1(thermo)*
Phototroph	1	0
Total	22 (17*)	9 (9*)
Habitat^e		
Aquatic, Fresh water	3*	0
Aquatic, Fresh water, Antarctic	1	0
Aquatic, Fresh water	1	0
Aquatic, Hot spring, Fresh water	1	1 (thermo)
Aquatic, Hot spring, Marine, Hydrothermal ven	1	1 (hyperthermo)
Aquatic, Marine	2*	2 (halo, psychro)*
Aquatic, Ponds, Soil, Marine, Fresh water	1	0
Aquatic, Sediment, Fresh water	1	0
Aquatic, Soil, Host, Fresh water	1	0
Fresh water	1	0
Host	1	0

Host, Soil, Sludge, Mud, Feces	1	1 (psychrotol)
Marine	1	1 (halo)
Marine, Hydrothermal vent	1	1 (hyperthermo)
Milk	1	1(thermo)
Sea water, Salinewater, Extreme	1	1 (halo)
Sediment	1	1 (psychro)
Sediment, Salt marsh, Fresh water	1	0
Soil	8*	4 (psychrotol,radi)*
Soil, Fresh water	3*	1 (alkalo)
Soil, Normal microflora	1	0
Soil, Sediment	1	0
Wastewater, Sludge	1	1(thermo)
Total	36 (15*)	16 (6*)
Cell arrangemente		
Chains	1	0
Chains, Pairs	1	1(thermo)
Chains, Singles	2*	0
Pairs, Singles	3*	1 (psychrol)*
Singles	10*	1 (psychrol,halo)
Total	17 (15*)	3(2*)

- a. <Factor> marked all the analyzed factors in the statistical part.
- b. <Organisms> marked the number of organisms that are involved in each group. The groups marked with an asterisk are considered for the statistical computation.
- c. <Extreme organisms> is the number of extreme organisms in this group. The names of the extreme organism groups are between brackets (Table S1). The groups marked with an asterisk (*) are considered for the next statistical computations. Abbreviations: **alkalo**, alkaliophiles; **thermos**, thermophiles; **hyperthermo**, hyperthermophiles; **psychrotol**, psychrotolerants; **psychro**, psychrophile **halo**, halophiles; **radio res**, radio resistant.
- d. <Classes> are the taxonomical organism groups grouped after the phylogenetic classification used by NCBI taxonomy database.
- e. Marked the general properties of the organisms (metadata) included by the GOLD database which were containing two or more groups. A group was considered in our analysis if it contained more than two samples: pH, Temperature, Oxygen requirement, Phenotype, Cell shape, Energy source, Habitat, and Cell arrangement.